



APPENDIX **A**

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Large Parcel Stormwater Plan

Large Parcel Stormwater Plan

INTRODUCTION

Description

The Large Parcel Stormwater Plan is intended to simplify the process to meet the stormwater management requirements for projects on large residential or commercial agricultural parcels that can manage stormwater onsite, through dispersion or infiltration. The Large Parcel Stormwater Plan form provides a quick and easy way to navigate the stormwater requirement for these projects. In addition to the Large Parcel Stormwater Plan form, a Site Plan must be developed that graphically describes the proposed work and proposed stormwater management measures.

Exemptions and Applicability

A project is exempt from stormwater management requirements if the following conditions apply:

- The purpose of the proposed improvements are to support a new or existing commercial agriculture operation, AND
- The project does not involve the conversion of timberland to agriculture, AND
- No new hard surfaces (impervious surfaces) are constructed.

Hard surface = patios, walkways, roads, roofs, gravel or paved driveways, and other constructed, non-vegetated surfaces.

If the project is not exempt, but the conditions below apply, the Large Parcel Stormwater Plan form can be used for compliance with Clark County stormwater requirements:

- The property's main use is residential or commercial agricultural,
- Stormwater runoff from the project area (new and replaced hard surfaces) will be dispersed on site or infiltrated (roof downspouts), and will not drain directly to an existing channel or pipe, AND
- Parcel is 21,780 square feet (1/2-acre) minimum in size, AND
- Including proposed project improvements, the amount of hard surface will be 35 percent or less of the total site area.

Dispersion = disposal of runoff via sheet flow through 100 feet (minimum) of natural vegetation or 300 feet (minimum) of pasture or cropland.

If the project does not meet the conditions above, the Large Parcel Stormwater Plan cannot be used, and the applicant must consult the Clark County Stormwater Manual to determine how to meet stormwater management requirements.

Dispersion of stormwater is discussed in Chapter 4 of this manual, as well as in Volume III, Chapter 3 and Volume V, Chapter 5 of the Stormwater Management Manual for Western Washington (SMMWW; Ecology 2005). Roof downspout dispersion and infiltration is discussed in Volume III, Chapter 3 of the SMMWW.

Organization

The Large Parcel Stormwater Plan form is divided into three primary sections:

- Section 1 – General site information.
- Section 2 – Source Control BMPs.
- Section 3 – Large Parcel Erosion Control Plan

An example form and Site Plan are included in this appendix.

Submittals

If an applicant's project is eligible for using the Large Parcel Stormwater Plan, a completed submittal consists of the following:

1. Large Parcel Site Plan (see below)
2. Completed Large Parcel Stormwater Plan form

BMPs, or *best management practices*, are measures that help to protect receiving waters. They may include "good housekeeping" practices such as sweeping, covering stockpiles, or constructed facilities such as swales.

During construction, an Erosion Control Log (from the Clark County Building Department) must be posted at the job site at all times.

LARGE PARCEL SITE PLAN

The Large Parcel Site Plan is intended to provide enough information to demonstrate that the stormwater requirements can be met as proposed. An example is provided in the attached appendix.

Start by mapping your parcel. An aerial photo works best to start your map. You can purchase an aerial photo from the Clark County GIS store on the 2nd floor of the Public Service Center at 1300 Franklin Street in Vancouver. Their phone number is (360) 397-2391. You can also print a map from Clark County GIS Digital Atlas if you have internet access (<http://gis.clark.wa.gov/applications/gishome/index.cfm>). Or, you can ask the Conservation District ([360] 883-1987) or the Ag-tech to print a map for you.

The Large Parcel Site Plan should be to scale and clearly show the following:

- Existing structures, ground cover (hard surfaces, gravel, forest, pasture, lawn, or other), streams, channels, wetlands, other environmentally sensitive areas, wells, septic drainfields, steep slopes (40 percent or steeper).

- Proposed improvements including new and replaced buildings, paved or gravel driveways/parking areas, and areas of native vegetation being converted to other uses.
- Drainage flow paths (delineate drainage basins if project site drains to multiple discharge locations) including dispersion flow paths with flow path length indicated.
- Location of roof downspouts and downspout infiltration and dispersion areas.
- Location of any specific stormwater and erosion control features/measures described in the Large Parcel Stormwater Plan form.

LARGE PARCEL STORMWATER PLAN FORM

Section 1 –Site Information

Site address _____

Parcel # _____

Soil type _____

Calculate and enter the site areas listed in Table 1 below.

To find parcel number:
<http://gis.clark.wa.gov/applications/gishome/property/>

For soil information, see
<http://websoilsurvey.nrcs.usda.gov/app/>

Table 1. Site Areas

	Description/Surface Type	Length (feet)	x	Width (feet)	=	Area (square feet)
A	Total site/parcel area					_____
B	Existing hard surface area (show on Site Plan)	_____	x	_____	=	_____
		_____	x	_____	=	_____
		_____	x	_____	=	_____
		_____	x	_____	=	_____
				Total	=	_____
C	Area of disturbance (show the extent of clearing or grading on Site Plan)					_____
D	New hard surface area (show on Site Plan)	_____	x	_____	=	_____
		_____	x	_____	=	_____
		_____	x	_____	=	_____
		_____	x	_____	=	_____
				Total	=	_____
E	Replaced hard surface areas (show on Site Plan)	_____	x	_____	=	_____
		_____	x	_____	=	_____
		_____	x	_____	=	_____
		_____	x	_____	=	_____
				Total	=	_____
F	Total hard surface area after improvements (B+D)					_____

Hard surface = patios, walkways, roads, roofs, gravel or paved driveways, and other constructed, non-vegetated surfaces.

New hard surface = pervious area (native vegetation, lawn, landscaping, pasture) converted to a hard surface.

Replaced hard surface = hard surface constructed on an area that previously had a hard surface (e.g. paving of a gravel driveway).

Native vegetation = Plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site.

Section 2 – Source Control BMPs

*Note: This section is **not** required if any of the following conditions applies to your project:*

- Area of disturbance less than 7,000 sf (value C from Table 1)
- New plus replaced hard surface area after improvements <2,000 sf (value F from Table 1)
- Project is a residential development

Complete source control checklist below.

Source Control Requirements

Which potential pollutants are stockpiled or stored on site? (Indicate stockpile or storage location on plan and specific pollutants here.)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Fuel Sealants or paints Animal Waste Fertilizers Compost Scrap metal Pesticides or Herbicides Other: _____
How are materials stored?	<input type="checkbox"/> <input type="checkbox"/>	Under cover or indoors Other: _____
Describe any good housekeeping or preventative maintenance activities measures to prevent pollution of downstream waters.	<input type="checkbox"/> <input type="checkbox"/>	Sweeping of loose material in storage areas Other: _____
How often are stockpiles or other material storage areas inspected?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	During or after each rain event Monthly Weekly Daily Other: _____

Section 3 – Large Parcel Erosion Control Plan

Enter estimated start/end dates for the following construction activities/milestones

Construction Schedule

Estimated Start/End Date

- | | |
|---|-------|
| 1. Permit obtained (start date) | _____ |
| 2. Mark clearing limits | _____ |
| 3. Establish construction access | _____ |
| 4. Install sediment controls | _____ |
| 5. Demolition | _____ |
| 6. Grading | _____ |
| 7. Utility construction | _____ |
| 8. Building or structure construction | _____ |
| 9. Landscaping/final site stabilization | _____ |

Complete Checklist for all Projects

Element/ Description	Requirement	Applicable BMP(s) ¹	Confirmation
Mark Clearing Limits	Prior to beginning land-disturbing activities, mark clearing limits and delineate sensitive areas and their buffers with high visibility fence	BMP C101: Preserving Natural Vegetation BMP C102: Buffer Zones BMP E216: High Visibility Plastic or Metal Fence	Will comply <input type="checkbox"/> N/A (explain):
Establish Construction Access	Provide stabilized construction entrance (e.g., quarry spalls or crushed rock); clean public roads if any sediment is transported off site. If an existing driveway will be used for construction access, describe condition and show on Site Plan.	BMP E1: Stabilized Construction Entrance	Will comply <input type="checkbox"/> N/A (explain):
Install Sediment Controls	Provide suitable sediment control BMP to prevent sediment from leaving site.	BMP E4: Silt Fence BMP C234: Vegetated Strip	Will comply <input type="checkbox"/> N/A (explain):

		BMP E6: Straw Wattles	
Stabilize Soils	All unworked and exposed soils shall be stabilized to prevent erosion. From October 1 through April 30, no soils shall remain exposed and unworked for more than 2 days. From May 1 to September 30, no soils shall remain exposed and unworked for more than 7 days.	BMP C120: Temporary and Permanent Seeding BMP C121: Mulching BMP E17: Matting BMP E16: Plastic Sheeting	Will comply <input type="checkbox"/> N/A (explain):
Protect Slopes	Design and construct cut and fill slopes to minimize erosion.	BMP C120: Temporary and Permanent Seeding BMP E18: Surface Roughening	Will comply <input type="checkbox"/> N/A (explain):
Protect Drain Inlets	Protect conveyance system from sediment by providing filtration of stormwater prior to entering inlets.		Will comply <input type="checkbox"/> N/A (explain):
Control Pollutants	Handle and dispose of construction debris in dumpster or by hauling to waste transfer station so that it does not contaminate stormwater		Will comply <input type="checkbox"/> N/A (explain):
Control Dewatering	Manage dewatering water from construction activities to prevent sediment discharge from site. Manage highly turbid dewatering water separate from stormwater.		Will comply <input type="checkbox"/> N/A (explain):
Maintain BMPs	Maintain BMPs to insure continued function		Will comply <input type="checkbox"/> N/A (explain):
Manage the Project	Phase the project to avoid soil disturbance from Oct. 1 through April 30 if possible. Modify BMPs if not effective or to meet changed conditions.		Will comply <input type="checkbox"/> N/A (explain):

¹Descriptions of BMPs designated C### can be found in Volume II of the Stormwater Management Manual for Western Washington (Ecology 2005). Descriptions of BMPs designated E## can be found in Appendix F.